

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Application of: DOMAZAKIS, Emmanouil	:	Examiner: STULII, Vera
Serial No.: 10/577,659	:	Group Art Unit: 1781
Filed: May 1, 2006	:	Attorney Docket No.: 506845.3
For: Method of production of meat products from entire muscular tissue, with direct incorporation of olive oil	:	Customer No.: 27526
	:	Confirmation No.: 8474

Dear Examiners Stulii and Tarazano:

We earnestly appreciate the opportunity to meet with you at your offices at 2:00 p.m. on 12/12/2011. In preparation of our meeting, we submit our summary arguments herein.

SECTION 112, FIRST PARAGRAPH

It is asserted in the Office Action that the specific degree or level of protein extraction is not described in the specification and therefore support for the phrasing "completed" and "substantially completely extracting" is not found.

RESPONSE

The specification discloses that the addition of the olive oil takes place after the extraction of the meat proteins has been achieved. See page 2, §0039: "The admixture of the olive oil that must be carried out after the extraction of the proteins of the meat (mixing-tumbling-emulsification). At that specific moment, the proteins of the meat, especially the salt soluble myosin and actin, have been extracted"; page 2, §0046: "At the end of tumbling and after the extraction of the meat proteins has been achieved, the olive oil is added. From the above, the level of protein extraction is clearly indicated to be complete.

SECTION 103(A)

ASSERTION

Regarding Claims 3, 7, 13, the Office Action asserts that Brandt discloses that the addition of various ingredients to the meat may be done by either mixing, injecting, tumbling or massaging.

RESPONSE

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Hendricks teaches that oil may be injected (Hendricks, claims 13 and 14), but does not disclose that other methods are possible. On the other hand, the mere fact that marinades are injected (Brandt, page 4) and that "mixing, tumbling and massaging of meat at low temperatures facilitates tenderization through disintegration of the muscle fiber sheath and stretching of the myofibrils" (Brandt, page 1), does not unambiguously lead to the conclusion that "tumbling" or/and "massaging" may also be used for the incorporation of olive oil in the meat pieces. It is well known that olive oil does not constitute a brine ingredient. As also taught by Brandt, a functional marination system includes ingredients that promote the capability of the muscle to bind water, such as salt and phosphates and those that actually bind water such as soluble proteins and starches. In fact, if the Applicant would have been taught by Brandt and/or Hendricks, he would rather have chosen to inject the oil into the meat pieces, instead of simply adding into the drum of the tumbler, as Hendricks relies upon an injection mechanism, that delivers an injectate into the mass of the fresh meat. Therefore, the method of Hendricks teaches the skilled person away from simply adding the oil into the drum of a tumbler, followed by further processing (a second independent tumbling step), as taught in the patent under examination.

In addition, Brandt relates to the incorporation of a clearly water-based marinade. The present invention relates to the incorporation of olive oil. It is readily known to one in the art of this field that water is not similar to nor can be substituted for oil (and in fact it is to the contrary to do so). Therefore, the disclosures by Brandt of injecting, tumbling and massaging are irrelevant because to use water instead of oil is not feasible.

ASSERTION

It is asserted in the Office Action that although the references do not specifically disclose every possible quantification or characteristic of their product, such as extraction of proteins, forming the substance of the muscular tissue and "creation of an emulsion of the extracted meat proteins with olive oil", these characteristics would have been expected to be as claimed, absent any clear and convincing reference to the contrary.

RESPONSE

Tumbling is another method of marinating meat, in addition to injection and immersion. Massaging and tumbling result in the extraction of protein exudates, which mainly consist of salt-soluble proteins, actin and myosin. Extraction of proteins, by tumbling, serves two

functions:

- i) Promotes cohesion of the meat pieces (chunks) during thermal processing. The extracted protein will heat-coagulate during thermal processing.
- ii) The extracted proteins absorb water. Tumbling thus yields products with improved juiciness and textural characteristics.

Protein extraction and formation of a substance promoting cohesion of the meat pieces are thus indeed considered to be an inherent result of tumbling. However, the function of the extracted meat proteins to form a "protein layer" at the meat surface that, at one hand, continues to promote binding between the meat pieces, while at the same time is capable of stably encapsulating the oil droplets, by means of emulsification/entrapment, cannot be considered as an inherent result of tumbling. This particular function of the extracted meat proteins was realised by the use of particular process features, including:

1. adding olive oil into the tumbling machine with the brine-injected and fully tumbled entire muscular tissue, and
2. tumbling after the addition of olive oil (a second independent step).

Not only it is difficult to perceive the idea of how to incorporate oil in an entire muscular tissue product, without using an oil injection system, it is yet more difficult to achieve stable oil incorporation thereof such as is achieved by the method of the present application. Using the method disclosed in the application under examination, the oil droplets are stably incorporated within the "protein layer", comprising water and extracted meat proteins, at the surface of the meat chunks. Owing to the stable oil encapsulation, the "protein layer" now acquires a distinct characteristic, i.e. a yellowish colour. Neither the phenomenon of stable oil incorporation in an entire muscular tissue-based product, nor the characteristic colour arising therefrom, can be considered as an inherent result of Tumbling.

ASSERTION

The Office Action asserts that the combination of references disclose the same starting materials and methods as instantly claimed.

RESPONSE

The approach-to-solution, as claimed in the present application, comprises the critical steps, as shown above. Since Brandt is a water-based marinade, it is not possible to combine it with

Hendricks which injects oil. The combination of references (if it is possible to combine them) does not disclose the same method as instantly claimed: Selecting to inject (instead of adding) the brine into the entire muscular tissue, proceeding to the main tumbling phase, adding the olive oil (instead of injecting) onto the fully-tumbled pieces of meat and proceeding to a second independent tumbling step. Therefore, the present method mainly relies on the mode of olive oil incorporation in entire-muscular tissue, the particular timing that this takes place and the realisation of an independent tumbling step (after the end of the main tumbling process).